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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
TANNER, HARRY B	

ART UNIT	PAPER NUMBER
3744	

DATE MAILED: 07/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/730,492	PHAM ET AL.
	Examiner	Art Unit
	Harry B. Tanner	3744

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-33 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-33 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 3/25/04.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 3, 8, 9, 14 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshikawa et al in view of Nagatomo et al. Yoshikawa discloses the invention substantially as claimed. Yoshikawa discloses a refrigeration system having a condenser 3, compressor 2, load sensor 43, liquid-side expansion valve 28 operated by a stepper motor 28 and controller 49,50 responsive to the load sensor for modulating the compressor capacity and the expansion valve opening in order to provide the proper level of refrigeration. Nagatomo teaches the use of a pulse width modulated variable capacity in order to provide adjustable compressor capacity for a refrigeration system. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the system of Yoshikawa such that it included the use of a pulse width modulated variable capacity compressor to provide the adjustable compressor capacity rather than the variable speed compressor in view of the teachings of Nagatomo. It is inherent in a duty cycle control system that the duty cycle time period will be shorter than the time constant of the load in order for the control system to work properly.

Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshikawa et al in view of Nagatomo et al as applied to claim 1 above, and further in view of Alsenz (5,035,119). Alsenz (5,035,119) teaches the use of pulsing a solenoid to operate an expansion valve. It would have been obvious to one of ordinary skill in

the art at the time the invention was made to have modified the system of Yoshikawa such that it included the use of a pulsing solenoid to operate the expansion valve rather than a stepper motor in view of the teachings of Alsenz (5,035,119).

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshikawa et al in view of Nagatomo et al as applied to claim 65 above, and further in view of Takizawa et al. Takizawa teaches the use of suction-side pressure regulator 14 in order to provide the proper level of refrigeration. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the system of Yoshikawa such that it included use of a suction-side pressure regulator 14 in order to provide the proper level of refrigeration in view of the teachings of Takizawa.

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshikawa et al in view of Nagatomo et al as applied to claim 1 above, and further in view of Tanaka. Tanaka teaches the use of capacity control in which cooling capacity is varied between hundred percent and zero percent . It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the system of Yoshikawa such that it included the use of capacity control in which cooling capacity is varied between hundred percent and zero percent in view of the teachings of Tanaka.

Claims 2 and 4-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshikawa et al in view of Nagatomo et al as applied to claim 1 above, and further in view of Bendtsen. Bendtsen teaches the use of both temperature 8 and pressure 11

sensors for control of the capacity of a cooling system. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the system of Yoshikawa such that it included the use of both temperature and pressure sensors for control of the capacity of the cooling system to in view of the teachings of Bendtsen. It is inherent that various parameters of a refrigeration system will have different rates of change.

Claims 17-19, 22-23, 25, 27-28 and 31-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshikawa et al in view of Nagatomo et al as applied to claim 1 above, and further in view of Schaeffer et al. Schaeffer teaches the use of refrigeration system for cooling multiple refrigeration cases and the use of scroll compressor in refrigeration systems. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the system of Yoshikawa such that it included the used to cool multiple refrigeration cases and with respect to claim 32 to use a scroll compressor in the refrigeration system in view of the teachings of Schaeffer.

Claims 20-21, 26 and 29-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshikawa et al in view of Nagatomo et al and Schaeffer et al as applied to claim 17 above, and further in view of Bendtsen as applied to claim 2 above.

Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshikawa et al in view of Nagatomo et al and Schaeffer et al as applied to claim 17 above, and further in view of Tanaka as applied to claim 10 above.

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1, 13-18, 22 and 32 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-15 of U.S.

Patent No. 6,408,635. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims in the patent recite the same invention as claims 1, 13-18, 22 and 32 of the current application in more specific detail.

Claims 11 and 12 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 6,408,635 in view of claim 1 of U.S. Patent No. 6,499,305. It would have obvious to one of ordinary skill in the art to have modified the control of the 6,408,635 patent with the alarm means of the 6,499,305 patent.

Harry B. Tanner
Primary Examiner

Harry Tanner
July 23, 2004
703-308-2622